

Listed are abstracts from recent papers and books by IBM authors. Inquiries should be directed to the publications and publishers cited.

Corporate planning, models and computer systems, B. Wagle (IBM UK Scientific Centre) and P. M. Jenkins (Durham University Business School), *The Computer Journal* 17, No. 3, 194-200 (August 1974). A survey of the uses of computer models in corporate planning. Presented are methods and techniques used in corporate model building, the findings of a survey assessing the current state-of-the-art in corporate planning, and a review of software packages available in this field. As a result of their investigations, the authors argue that future development of packages in this specialty should concentrate on ease of use and flexibility, combined with easy communication between the planner and the model. Two distinct systems are recommended: a simple financial modeling system (a natural extension to currently available systems) and an integrated corporate planning system for more sophisticated users.

An interactive graphic and process controlled system for composing and sampling loom-constrained designs, N. P. Dooner (RES Yorktown Heights, NY), J. R. Lourie (SSI New York, NY), and P. Velderman (ASDD Mohansic, Yorktown Heights, NY), *Computer* 7, No. 4, 45-49 (April 1974). A fabric designer can observe graphic representations of his designs on a terminal display screen. Thus the designer is able to develop a large number of patterns in a short period of time, allowing him to experiment with more weaves and to produce a larger quantity of high quality patterns per unit of design time. When the computer is coupled with a Jacquard loom, patterns of these designs, intended for either a Jacquard or a Dobby loom, can be produced for examination.

Magnetic recording, H. B. Michaelson, Ed., *IBM Journal of Research and Development* 18, No. 6 (November 1974). (G322-0079). This issue contains 11 papers on a wide range of research and development topics in magnetic recording, reporting on the innovative results from the various disciplines in disk file and tape file technologies. There are essentially five topics presented in this issue. Papers in the first category show the relations between the design of a disk facility and some of the underlying component technologies. The second group reports research on the interface between head and recording surface for both rigid substrates and flexible media. The third category, contributions to head technology, describes recent research on the thin-film head. The remaining two categories include some experimental studies on magnetic characteristics of disk and tape recording media and a new coding technique.

Abstracts

The program development process: Part 1: The individual programmer, J. D. Aron (SDD Gaithersburg, MD), Addison-Wesley, Reading, Massachusetts (1974). This book, the first of two volumes on programming, teaches the procedural aspects of programming to the individual programmer. Because it covers the process of programming, the author feels it supplements the usual technological training each programmer requires. Chapters range from a history of the program development process to the uses of on-line terminals. Other chapters include problem analysis and planning, program design, coding, and debugging and delivery. The 48-page chapter on coding covers Top-Down vs. Bottom-Up Programming, coding techniques, structured programs, performance, optimization, reliability, and maintenance. The 31-page chapter on debugging, documentation, and delivery includes sections on locating bugs, debugging aids, and planning a debugging run; necessary documents and documentation aids; conversion and installation; and programmer measurement. 235 pp. Extensive footnotes. This is the first volume in the Systems Programming Series (see notice below).

Textile graphics/computer-aided, J. R. Lourie (SSI New York, NY), Fairchild Publications, Inc., New York, New York (1973). This book, aimed at computer analysts, textile designers, and textile management, describes interactive computer graphics as a design tool for the textile industry. Early chapters deal with the weaving process and the looms used for weaving. The analogy between looms and computers is investigated. The textile graphics project led to the direct linking of computer and loom for the IBM exhibit at HemisFair in 1968. Both nontechnical and technical descriptions of this first integrated system for designing and manufacturing textiles are provided. One chapter covers the experiences of several artists who used the interactive computer graphics tools provided by the textile graphics project. The final chapters discuss applications to electronic circuit design and manufacture and the economic implications of the techniques. 297pp. Bibliography.

Notice

The Systems Programming Series, sponsored by IBM and published by Addison-Wesley, will consist of about twenty volumes. The first of these, *The program development process: Part 1: The individual programmer*, is abstracted above. The series is intended to develop present and future systems programmers by providing an authoritative and cohesive body of knowledge. The editors plan to have volumes that describe the "whys" as well as the "hows" of systems programming so that programmers have a foundation on which to build new systems, avoiding the errors of the past while profiting from its successes. The series is organized and controlled by an editorial board composed of IBM programming professionals. While some of the books will be written by IBM employees, other authors have been solicited from universities and from other firms within the computer industry.

Because of the diverse backgrounds, experiences, and needs of the readers, the series is divided into three categories: foundation volumes, special topics, and advanced topics. The foundation volumes are intended to give the programmer a complete view of systems programming. The editors intend these volumes to be written as clearly and simply as possible to meet the needs of a broad audience with varied but limited experience in systems programming. Special and advanced topics are for the reader who must acquire intensive knowledge of a specific subject or for advanced students in computer science.

Scheduled for publication during the first six months of 1975 are the following volumes:

An introduction to database systems by C. J. Date

The structure and design of programming languages by J. E. Nicholls

Sorting and sort systems by H. Lorin

Recursive programming techniques by W. H. Burge